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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
PEREZ, JULIO R

ART UNIT	PAPER NUMBER
2681	

DATE MAILED: 02/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.   Applicant's arguments filed on 10/22/04 have been fully considered but they are

not persuasive. The applicant argues that Subramanian does not teach the flexibility of

the system where one of the configurable computational units is dynamically selected

based on a wireless communication standard for configuring various hardware for

dedicated functions with at least one data flow component interconnecting one of the

computational units and one data flow unit interconnecting the different layers, and that

further fails to teach compiling software stored in a software library in host memory

wherein determining the utilization of hardware resources based on the software

compiled. However, the examiner respectfully disagrees. Subramanian teaches

heterogeneous reconfigurable multiprocessing logic circuit and bus connecting the

software-programmable multiprocessor and the heterogeneous reconfigurable

multiprocessing logic circuit, which provide the reconfiguration of signal processing

Kernel units, that correspond to configurable computational units, and further teaches

the executive code that further facilitates the management of dataflow into and out of

the heterogeneous reconfigurable multiprocessor, which can be controlled and

reconfigured via a software-programmable engine, and that, in fact, provides the ability

to reconfigure a single product platform for multiple standards (col. 3, lines 6-9, 28-48;

col. 4, lines 48-54; col. 5, lines 3- 9, 63-67; col. 7, lines 1-25, 53-63; col. 8, lines 6-23;

col. 9, lines 24-32; col. 10, lines 17-40). It further provides the use of software

programming techniques to reduce product development time and accomplish quick

and full product optimization, with the further addition of software upgrades. In addition,

the software control provides the selection of software modules to execute on different

hardware components and applications (col. 4, lines 59-67; col. 5, lines 10-41; col. 7,

lines 45-63; col. 10, 23-31).

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) The invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by

applicant's submission of prior art Subramanian (6721581).

Regarding claim 1, Subramanian discloses an upgradeable and extendable

wireless communication system, comprising: a plurality of layers, each layer including: a

plurality of configurable computational units capable of implementing operation of

wireless digital communication functions, at least one of the plurality of configurable

computational units being dynamically selected based on a wireless communication

standard to configure various hardware for dedicated functions; (col. 3, lines 6-9, 28-48;

col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 7, lines 1-25, 53-63; col. 8, lines 6-23;

col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, the system comprises a number of

elements to implement a digital communication, several Kernels to be configured and

interact with different standards); a plurality of data flow components for forming paths

between ones of said computational units and having means for storing data, at least a

first one of the plurality of data flow components inter-connecting each of the

computation units and at least a second one of the plurality of data flow components

interconnecting each of the plurality of layers (col. 3, lines 6-9, 28-48; col. 4, lines 38-54;

col. 5, lines 3- 9, 63-67; col. 6, lines 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23;

col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, computational elements within the

system comprise means to maintain data flowing and means from storing information);

and a plurality of control flow components for forming a signaling-exchange network

between ones of said computational units (col. 3, lines 6-9, 28-48; col. 4, lines 38-54;

col. 5, lines 3- 9, 63-67; col. 6, lines 1-30, 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-

23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, signaling is provided within the

system).

Regarding claim 2, Subramanian discloses the wireless communication system

further including means for at least one layer of said plurality of layers to communicate

with at least another layer of said plurality of layers (col.3, lines 28-31; col. 4, lines 48-

58, a number of devices are provided that interact with one another).

Regarding claim 3, Subramanian discloses the wireless communication system

of claim 1, wherein the plurality of configurable computational units comprise a RF front-

end waveform kernel set, a re-configurable kernel set and a reprogrammable kernel set

(col. 4, lines 48-58; col. 5, lines 36-39; col. 6, lines 1-3, sets of Kernels are provided,

which used the air as a medium for communication).

Regarding claim 4, Subramanian discloses the wireless communication system, wherein the plurality of data flow components comprises a layer-memory structure and a layer-router structure (col. 4, lines 14-24; Figs. 4A-6).

Regarding claim 5, Subramanian discloses the wireless communication system, wherein the plurality of control flow components comprises a layer-memory structure and a layer-bus structure (col. 3, lines 6-9, 28-48; col. 4, lines 38-54; col. 5, lines 3- 9, 63-67; col. 6, lines 1-24, 54-66; col. 7, lines 1-25, 53-63; col. 8, lines 6-23; col. 9, lines 24-32; col. 10, lines 17-4; Figs. 4A-6, memory structures and memory structures are provided within the system).

Regarding claim 6, Subramanian discloses a method of programming and configuring components of an upgradeable and extendable wireless communication system in order to implement multiple wireless communication standards, services, and applications, comprising: identifying one of the application, standard or service to be implemented (col. 5, lines 31-41, several applications are served and implemented by the system); compiling software stored in a library that is associated with the identified application, standard or service and storing complied software in a host memory (col. 4, lines 59-67; col. 5, lines 10-41, 56-67; col. 7, lines 45-63; col. 10, 23-31); determining the utilization of hardware resources based on the complied software, the hardware resources being located at different layers of an updateable and extendable communication system and being chosen to form an event-driven hardware (col. 4, lines 59-67; col. 5, lines 10-41, 56-67; col. 7, lines 45-63; col. 10, 23-31, several hardware and software resources are utilized. It further provides the use of software programming

techniques to reduce product development time and accomplish quick and full product

optimization, with the further addition of software upgrades. In addition, the software

control provides the selection of software modules to execute on different hardware

components and applications); and configuring hardware resources to meet the

application, standard or service required (col. 4, lines 59-67; col. 5, lines 10-41, 56-67;

col. 7, lines 45-63; col. 10, 23-31, the resources of the hardware are configured

appropriately).

Conclusion

4.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

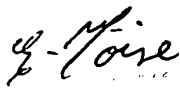than SIX MONTHS from the mailing date of this final action.

5.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Julio R Perez whose telephone number is (703) 305-

8637. The examiner can normally be reached on 7:00 - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Emmanuel Moise can be reached on 703-306-0003. The fax phone number

for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

2/10/05